



Prediction as an impediment to preparedness: Lessons from the US Hurricane and Earthquake Research Enterprises

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Abstract:

No matter one's wealth or social position, all are subject to the threats of natural hazards. Be it fire, flood, hurricane, earthquake, tornado, or drought, the reality of hazard risk is universal. In response, governments, non-profits, and the private sector all support research to study hazards. Each has a common end in mind: to increase the resilience of vulnerable communities. While this end goal is shared across hazards, the conception of how to get there can diverge considerably. The earthquake and hurricane research endeavors in the US provide an illustrative contrast. The earthquake community sets out to increase resilience through a research process that simultaneously promotes both high quality and usable - preparedness-focused - science. In order to do so, the logic suggests that research must be collaborative, responsive, and transparent. Hurricane research, by contrast, largely promotes high quality science - predictions - alone, and presumes that usability should flow from there. This process is not collaborative, responsive, or transparent. Experience suggests, however, that the latter model - hurricane research - does not prepare communities or decision makers to use the high quality science it has produced when a storm does hit. The predictions are good, but they are not used effectively. Earthquake research, on the other hand, is developed through a collaborative process that equips decision makers to know and use hazards research knowledge as soon as an earthquake hits. The contrast between the two fields suggests that earthquake research is more likely to meet the end goal of resilience than is hurricane research, and thus that communities might be more resilient to hurricanes were the model by which research is funded and conducted to change. The earthquake research experience can provide lessons for this shift. This paper employs the Public Value Mapping (PVM) framework to explore these two divergent public value logics, their end results, and opportunities for improvement. © 2011 Springer Science+Business Media B.V.

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Resource Description

Communication:

resource focus on research or methods on how to communicate or frame issues on climate change;
 surveys of attitudes, knowledge, beliefs about climate change

A focus of content

Communication Audience:

audience to whom the resource is directed

Climate Change and Human Health Literature Portal

Researcher

Early Warning System:

resource focus on systems used to warn populations of high temperatures, extreme weather, or other elements of climate change to prevent harm to health

A focus of content

Exposure :

weather or climate related pathway by which climate change affects health

Extreme Weather Event

Extreme Weather Event: Hurricanes/Cyclones

Geographic Feature:

resource focuses on specific type of geography

Ocean/Coastal

Geographic Location:

resource focuses on specific location

United States

Health Impact:

specification of health effect or disease related to climate change exposure

General Health Impact

Intervention:

strategy to prepare for or reduce the impact of climate change on health

A focus of content

Mitigation/Adaptation:

mitigation or adaptation strategy is a focus of resource

Adaptation

Model/Methodology:

type of model used or methodology development is a focus of resource

Exposure Change Prediction

Population of Concern: A focus of content

Population of Concern:

populations at particular risk or vulnerability to climate change impacts

Low Socioeconomic Status

Resource Type:



format or standard characteristic of resource

Research Article

Resilience:

capacity of an individual, community, or institution to dynamically and effectively respond or adapt to shifting climate impact circumstances while continuing to function

A focus of content

Timescale:

time period studied

Short-Term (